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International Specialists in the Environment


MEMORANDUM

DATE: May 4, 1987

TO: John Osborn, FIT-RPO, USEPA, Region X

FOR: Joyce Crosson, RSCC, USEPA, Region X

THRU: David Buecker, FIT-OM, E&E, Seattle

FROM: Thomas Cammarata, Geochemist, E&E, Seattle
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SUBJ: QA of Case 6973 (Inorganics)
Pasco Landfill

REF: F10-8703-01

CC: Gerald Muth, DPO, USEPA, Region X
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The Quality Assurance review of 28 samples, Case 6973, collected from Pasco Landfill, has been completed. Twenty-eight water samples were analyzed at low level for inorganics by California Analytical Laboratory, Sacramento, California. The samples were numbered:

| | | |
|---|---|---|
| MJ 2601 | MJ 2625 | MJ 2634 |
| MJ 2607 | MJ 2626 | MJ 2635 |
| MJ 2608 | MJ 2627 | MJ 2636 |
| MJ 2609 | MJ 2628 | MJ 8900 |
| MJ 2610 | MJ 2629 | MJ 8894 |
| MJ 2621 | MJ 2630 | MJ 8895 |
| MJ 2622 | MJ 2631 | MJ 8896 |
| MJ 2623 | MJ 2632 | MJ 8897 |
| MJ 2624 | MJ 2633 | MJ 8898 |
| | | MJ 8899 |

Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control specifications outlined in IFB WA 85-J-838.

1) Timeliness - Acceptable

2) Initial Calibration - Acceptable

3) Continuing Calibration - Acceptable

4) Instrument Detection Limits - Acceptable

5) Blanks - Acceptable

6) ICP Interference Check - Acceptable

7) Laboratory Control Sample

Laboratory control sample was outside MSA control limits.

| Element | %R | QC Limits |
|---|---|---|
| Arsenic* | 89% | 85 - 115% |

*Sample analyzed by MSA -- correlation coefficient less than the CRQL of .995.

8) Duplicate Sample Analysis

Two duplicates were outside control limits.

| Sample | Element | RPD | Control Limits |
|---|---|---|---|
| MJ 2601 | Iron | 48% | 20% |
| MJ 2610 | Iron | 54% | 20% |

9) Spiked Sample Analysis

Two duplicates were outside control limits.

| Sample | Element | % Recovery | Control Limits |
|---|---|---|---|
| MJ 2601 | Iron | 50% | 75 - 125% |
| MJ 2610 | Thallium | 82% | 85 - 115% |

*Sample analyzed by MSA -- correlation coefficient less than the CRQL of .995.

10) ICP Serial Dilution

One duplicate was outside control limits.

| Sample | Element | % Difference | Control Limits |
|---|---|---|---|
| MJ 2610 | Barium | 16% | 10% |

11) Furnace AA - Acceptable

12) Mercury Analysis - Acceptable

13) Sample Analysis - Acceptable

Data Use

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (R-582-5-5-01).

Upon consideration of the above comments, the data is ACCEPTABLE for use except where flagged with data qualifiers which modify the usefulness of individual values.

Additional data packages associated with the project are expected for CLP labs.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is an estimated sample quantitation limit.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

R - Quality Control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.

Q - No analytical result.

N - Presumptive evidence of presence of material (tentative identification).

B - The element was found in the laboratory blank as well as the sample.

M - Mass spectral criteria for positive identification were not met. However, in the opinion of the laboratory, the identification is correct based on the analyst's professional judgement.

F - Concentration of this element exceeds either the primary or secondary drinking water standard listed in the Safe Drinking Water Act of 1974.

QA6973.INO

TC/ng